The disk $x^2 + y^2 \leq a^2$ is revolved about the line $x = b \ (b > a)$ to generate a solid shaped like a doughnut and called a torus. Find its volume through
a). the washer method
b). the shell method

Hint: $\int_{-a}^{a} \sqrt{a^2 - y^2} \, dy = \frac{\pi a^2}{2}$, since it’s the area of a semicircle of radius $a$. 